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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/742,683	12/19/2000	Lyndon Y. Ong	061473/0269206	9934

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STEUBING AND MCGUINNESS & MANARAS LLP
125 NAGOG PARK
ACTON, MA 01720

EXAMINER

QURESHI, SHABANA

ART UNIT PAPER NUMBER

2155

DATE MAILED: 03/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/742,683	ONG, LYNDON Y.	
	Examiner	Art Unit	
	Shabana Qureshi	2155	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

LR

DETAILED ACTION

Response to Arguments

Applicant argues that Rao fails to teach a packet modifier device is separate from the network application server. In response to Applicant's argument, Examiner maintains that the cited portion teaches the limitation above. Rao teaches that the computer software and data at the router 16 (see figure 1) includes a translation table, translation engine, application database, and management system. Rao further states that these components may be "... divided for processing in or remotely from the router 16 and otherwise stored in system or other suitable memory in or remotely from the router 16 without departing from the scope of the invention (column 4, lines 26-30)." Examiner interprets this to teach that the translation engine, which performs packet modification, may be remotely located from the router, therefore disclosing the claimed limitation. Examiner also interprets this to teach that the network address translation mechanism taught by Rao may be distributed.

Applicant also argues that there is no mention or suggestion in Durham alone or in combination with Rao of a distributed address translation mechanism that uses COPS for communication between different devices with perform different tasks in the address translation process. However, Durham et al teach that COPS-PR protocol is used on one side of a network near a network boundary such as the one taught in Rao (page 36, paragraph 4). It would have been obvious to one of ordinary skill in the art to employ the COPS protocol taught by Durham et al in the network as taught by Rao because employing COPS-PR provides a secure protocol near network boundaries (Durham, page 36, paragraph 4)."

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-7, 10-11, 13, 15, 17-18, 20, and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Satyanaranyana B. Rao, (US Patent No. 6,535,511 B1, hereinafter “Rao”).

Regarding claims 1, 5, 10, and 17, Rao teaches a private communications network comprising:

- an end system configured to communicate with a remote system via a network separate from the private communications network (column 3, lines 39-45, separate network is a public network);
- a distributed address translation mechanism (column 4, lines 25-30, router 16 may be distributed; column 4, lines 35-39, translation engine) comprising:
- a network application server to receive a call request indicating the remote system wishes to communicate with the end system (column 3, lines 20-30) and using an address mapping table configured to communicate with the network application server to generate at least one address mapping responsive thereto (column 4, lines 35-48, combination of address database and translation table is address mapping table); and

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- a packet modifier device, separate from the network application server (column 4, lines 25-30, “computer software and data may be otherwise combined and/or divided for processing in or remotely from the router 16 and otherwise stored in a system or other suitable memory in or remotely from the router 16 without departing from the scope of the present invention”) configured to receive a call request from the remote system via the separate network, to receive the address mapping from the network application server and to use the at least one address mapping to map communication packets from the end system for transmission on the private network in accordance with the address mapping information (figure 3, application table 68, application database 64; column 5, lines 1-10; column 4, lines 14-17; column 4, lines 35-59, translation engine is packet modifier).

As per claim 2, Rao teaches the network of claim 1, wherein:

- the end system is configured to communicate with the remote system by sending communication packets to the packet modifier (column 3, lines 39-45); and
- the packet modifier is configured to map, communication packets from the end system by substituting at least one of source and destination addresses in the packet according to the mapping from the network application server (column 4, lines 35-59).

As per claim 3, Rao teaches the network of claim 2, wherein the packet modifier is configured to substitute at least a source address in the packet (column 3, lines 26-28).

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As per claim 4, Rao teaches the network of claim 1, wherein the network application server is configured to provide the at least one address mapping to the packet modified a 1 command according to a predetermined protocol (column 3, lines 39-48).

As per claim 6, Rao teaches the system of claim 5, wherein the address mapping table is configured to store information on an address mapping of at least the end system (column 4, lines 56-59).

As per claim 7, Rao teaches the system of claim 5, wherein the network application server is configured to access the address mapping table responsive to a request by the end system to communicate with the remote system (column 4, lines 35-59).

As per claim 8, Rao teaches the system of claim 5, wherein the network application server is configured to access the address mapping table responsive to a request by the remote system to communicate with the end system (column 4, lines 35-49).

As per claim 9, Rao teaches the system of claim 5, wherein the network application server is configured to send a command to the packet modifier to push the mapping association to the packet modifier (column 4, lines 35-48).

As per claim 11, Rao teaches the method of claim 10, wherein modifying packets includes modifying packets by substituting addresses of the packets corresponding to the end system (column 3, lines 26-28).

As per claim 13, Rao teaches the method of claim 10, further comprising using the network application server to communicate the address mapping to the packet modifier device via a command protocol (column 3, lines 45-48).

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As per claim 14, Rao teaches a method of generating address mappings using a distributed address translation mechanism including a network application server and a separate packet modifier device, the method comprising:

- receiving, at the network application server, a request to establish a communication session between an end system connected to the network and a remote system connected to a public network (column 3, lines 20-30);
- accessing an address mapping table connected to the network application server to obtain address mapping information relating to at least one of the end system and the remote system (column 4, lines 52-59);
- generating an address mapping association based on the address mapping information (column 4, lines 52-59); and
- pushing the mapping association to a the separate packet modifier for modifying packets sent from one of the end system and the remote system to the other (column 4, lines 25-30, packet modifier may be separate; column 4, lines 52-59, information is passed between the packet modifier and address mapping table for translation of packets between the end point and the remote system and vice versa).

As per claim 15, Rao teaches the method of claim 14, wherein the address mapping association relates to at least the end system (column 4, lines 35-59, relates to end system or remote system).

As per claim 16, Rao teaches the method of claim 14, wherein pushing the mapping association is done using a command language (column 4, lines 35-48; column 4, lines 24-30).

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As per claim 18, Rao teaches the network of claim 17, wherein the packet modifier device is configured to receive communication packets via the separate network from the remote system, process them using the address mapping from the network application server and pass the processed packets to the end system (column 4, lines 14-17; column 4, lines 35-59).

As per claim 19, Rao teaches the network of claim 18, wherein the packet modifier device (column 4, lines 35-59) is configured to process the communication packets by performing a destination address substitution according to the address mapping from the network application server (column 3, lines 26-28).

As per claim 20, Rao teaches the network of claim 17, wherein the network application server is configured to provide the at least one address mapping to the packet modifier device via a command according to a predetermined protocol (column 4, lines 44-46).

As per claim 22, Rao et al teach the network of claim 17, wherein the network application server is further to send a message to the remote system providing an address on the separate network which will be mapped by the packet modifier device (column 5, lines 33-43, management system updates router with address, message with address is sent in the payload).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rao in view of Borella et al (US Patent No. 6,353,614).

Regarding claim 12, Rao teaches the method of claim 10, Rao does not explicitly teach that the network application server is one of a plurality of network application servers, each of the plurality of network application servers serving separate address pools associated with different types of data streams.

However, Borella teaches a distributed network application server that is one of a plurality of network application servers (column 9, lines 1-30), each of the plurality of network application servers serving separate address pools (column 9, lines 1-30) associated with different types of data streams (column 7, lines 58-60). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Rao with that of Borella in order to prevent bottlenecking of the router performing address translation (column 33-38).

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rao in view of Durham, et al¹.

Regarding claim 21, Rao teaches the network of claim 20. Rao teaches that a protocol is used in address translation in column 4, lines 44-46. Rao does not teach that the protocol is specifically COPS-PR. However, Durham et al teach that COPS-PR protocol is used on one side of a network near a network boundary such as the one taught in Rao (page 36, paragraph 4). It would have been obvious to one of ordinary skill in the art to employ the COPS protocol taught by Durham et al in the network as taught by Rao because employing COPS-PR provides a secure protocol near network boundaries (page 36, paragraph 4)."

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

¹ Durham, et al., "The COPS (Common Open Policy Service) Protocol", The Internet Society, January 2001.

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shabana Qureshi whose telephone number is (703) 308-6118.

The examiner can normally be reached on Monday - Friday, 8:30am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain T. Alam can be reached on (703) 308-6662. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Shabana Qureshi
Examiner
Art Unit 2155

February 18, 2005


HOSAIN ALAM
SUPERVISORY PATENT EXAMINER